INSTALLATION MANUAL

EVBIKE

Wheel Drive Electric Bicycle Kit

EVBIKE-SET-36V-26F

EVBIKE-SET-36V-26R

EVBIKE-SET-36V-28F

Thank you for purchasing EVBIKE product and we hope that you will become a happy user.

Carefully read the entire manual prior to installation and first use!

If you find any fact in the manual that would prevent you from using our product, please contact your reseller for further discussion and keep the original packaging. The reseller will advise you how to proceed properly.

CAUTION

EVBIKE SET IS SOLD AS THE CONVERSION KIT. SAFETY AND COMPLIANCE WITH LEGISLATIVE REQUIREMENTS OF THE FINAL PRODUCT IS FULLY GUARANTEED BY THE OPERATOR OF A BIKE OR WHOEVER BUILT AND THAN SOLD THE CONVERSED BIKE. WE RECOMMEND THAT YOU ENTRUST CONVERSION OF THE BIKE TO AN AUTHORIZED SERVICE CENTER.

PLEASE READ CAREFULLY THIS INSTALLATION MANUAL BEFORE YOU WILL START EVBIKE CONVERSION.

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1. Changing of rim with motor
2. Pedal assistant
3. Controller and cabling
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Note: This user manual was translated from the Czech original.

SPECIFICATIONS - CONTROLLER

Battery voltage:	36 V	48 V
Maximum speed:	27 km/h*	35 km/h*
Motor power:	350 / 500 W	500 / 750 W
Power input:	22 A	22 A
Permanent power input:	11 A	11 A

* Maximum possible speed. The real speed deepends on the motor, diamter of the rim, weight of a biker and other conditions.

SPECIFICATIONS - MOTOR

Model:	28F, 26F, 26R	26F-154
Motor power 36 / 48 V:	500 / 750 W	350 / 500 W
Rim diameter:	26", 28" x 1,75"	26" x 1,75"
Motor weight:	6,62 Kg	5,16 Kg
Drive:	Front / rear	Front
Stotor diameter:	205 mm	154 mm
Maximum rim load:	70 Kg**	
Rim material:	Alluminium alloy 6061, (double wall)	

** Total bicycle load up to 120 kg must not be exceeded (includes the weight of the rider, bike and EVBIKE set).

PACKAGE CONTENT

EVBIKE HUB motor

Brake levers

Controll unit

Pedal assistant

LCD display + fixing

Accelerator

Cable harness

FOR SUCCESFUL ASSEMBLY OF EVBIKE, YOU WILL ALSO NEED FOLLOWING:

— ribbons for cables fastening
— screws, nuts, washers
— special bottom bracket tools (see pictures a, b, c)
— basic technical skills

a - Compact Crank Puller

b - Cassette Lockring Remover Tool

c - Bottom bracket remover tool

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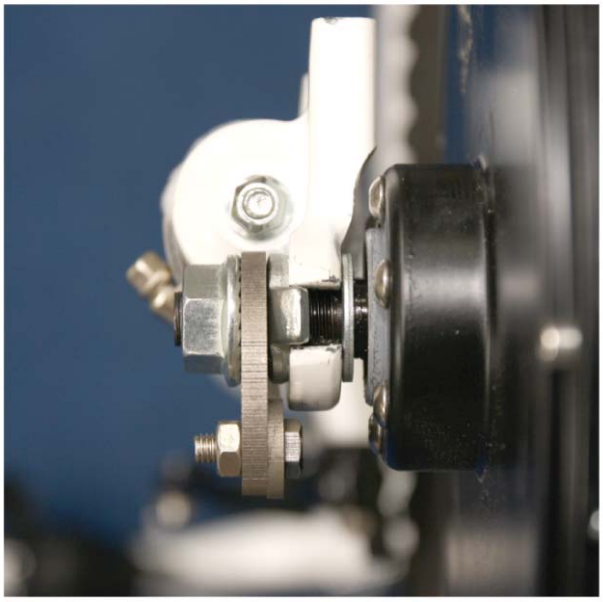
1. INSTALLING EVIBIKE HUB MOTOR

1) Remove the original wheel and swap tire to the EVBIKE HUB motor rim. Remove the original wheel and put tire with tube to the EVBIKE rim. Remember also protective wheel rim strip. Newly assembled wheel with HUB motor should be checked and trued after 100-200 km.

2) Insert the EVBIKE HUB motor into the fork. When installing, make sure the correct direction of rotation. The cablecome out on right side of the fork when bike is in the normal position (Fig. 3). Otherwise the wheel will run backwards against direction of way.



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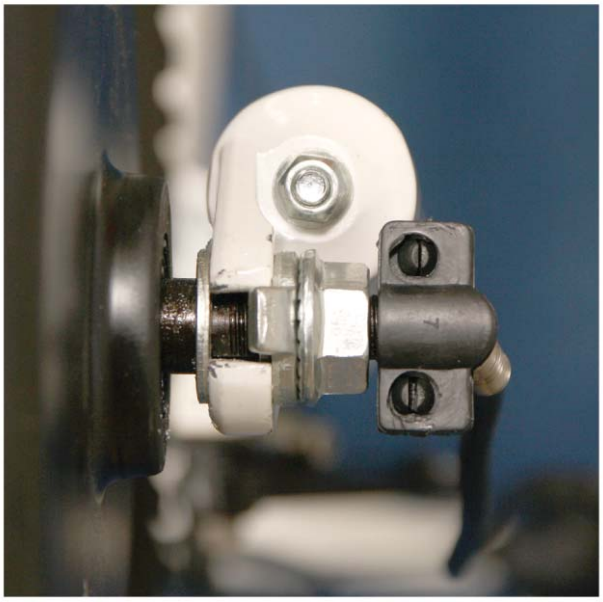

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3) Mounting of the rim differs bike to bike. For all bike types we recommend to use the torque arm. See Figures 2, 4 and 5. The torque arm will eliminate the reaction torque on axe (Fig. 6). Torque arm is partof the optional accessories and is **not included in basic package**.

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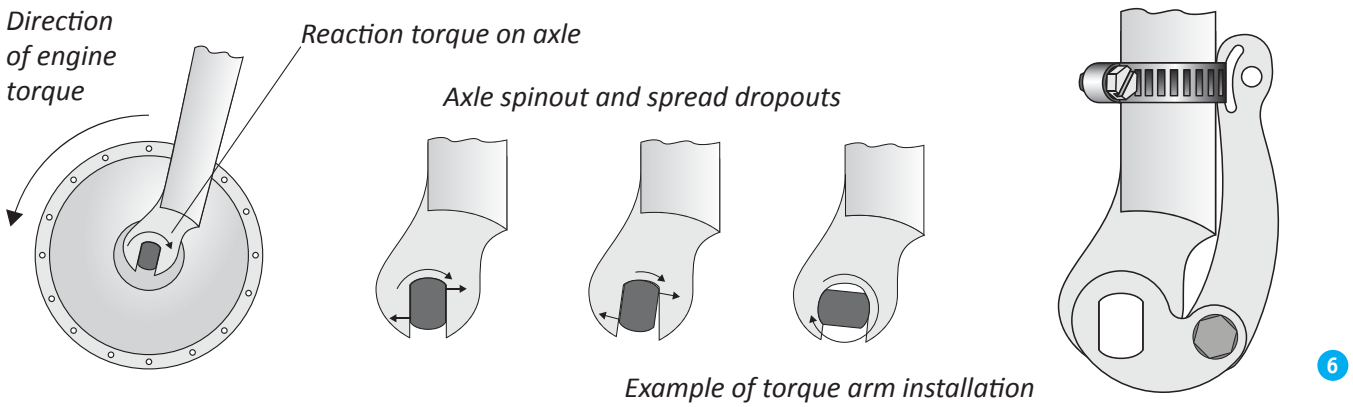
Direction of engine torque
Reaction torque on axle
Axle spinout and spread dropouts
Example of torque arm installation

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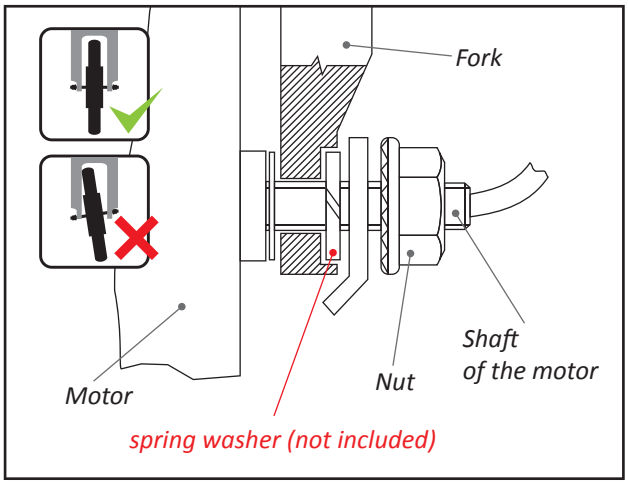
⚠ CAUTION

In any case, it is necessary to ensure tight connection nuts, washers and fork surface. Insufficient nut tightening may cause wheel dropping out of the fork. The connection between wheel and fork must be firm and stable (Fig. 7).



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NOTICE

When you install the hub motor to the rear wheel (Fig. 8), proceed the same way. There are only following differences between front and rear wheel installation:

- In addition, you must dismount the freewheel shimano gears. To dismount the freewheel use a special pinionpuller (Fig. 1b). The rear hub motor is ready for mounting freewheel with screw pinion. For most bikes equipped with 7 gears shimano wheel is a screw pinion. For bikes with 8 gears or more gears is not recommended to use the rear hub motor because here is a potential of many complications during the installation. For bikes with 8 and more gears we recommend to use the front wheel hub motor.
- The cable come out on **left side** of rear fork when the bike is in normal position.
- After installation the hub motor you will need to adjust the sorting of gears. Its needed to avoid a collision with the hub motor.

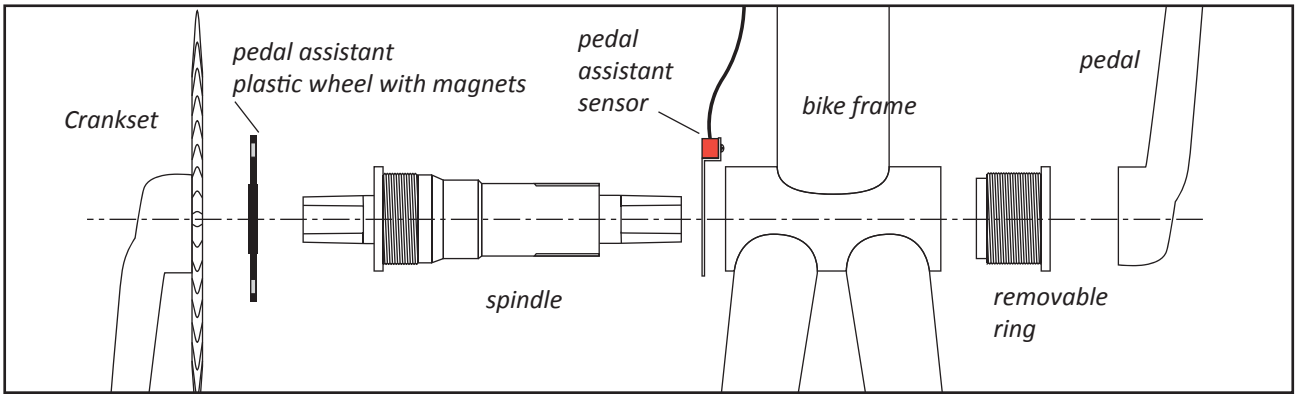
2. PEDAL ASSISTANT

1) When you start pedal, the pedal assistant will automatically adjust motor power.

2) To install this part, you have to remove spindle. Removing requires special tools (Fig. 1a, 1c).

3) Disassemble the bike parts as shown at the Fig. 9.

4) Mout plastic wheel with magnets in correct direction of rotation (shown on wheel by arrows). Because of variety of the assembling of the sensor (Fig. 10), the arrow on the sensor doesn't always match the direction of pedaling. Correctness sensing should always be verified. Final tightening you can leave at the end of the whole installation.



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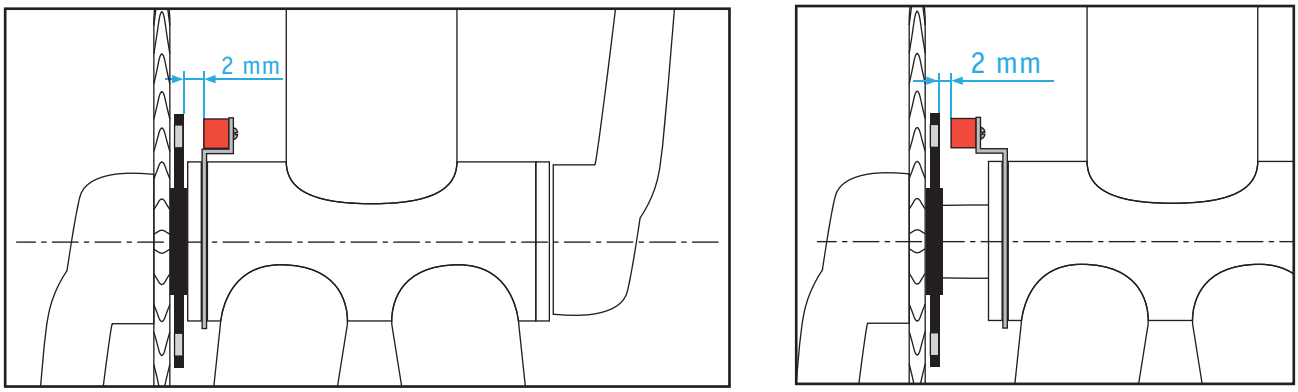
5) There must be aprox. 2 mm space between plastic wheel and sensor. Depending on the type of bicycle, the distance between the magnet wheel and sensor could be too small respectively large. Sensor ring sleeve can be rotated and sensor bolted from the other side (Fig. 10).



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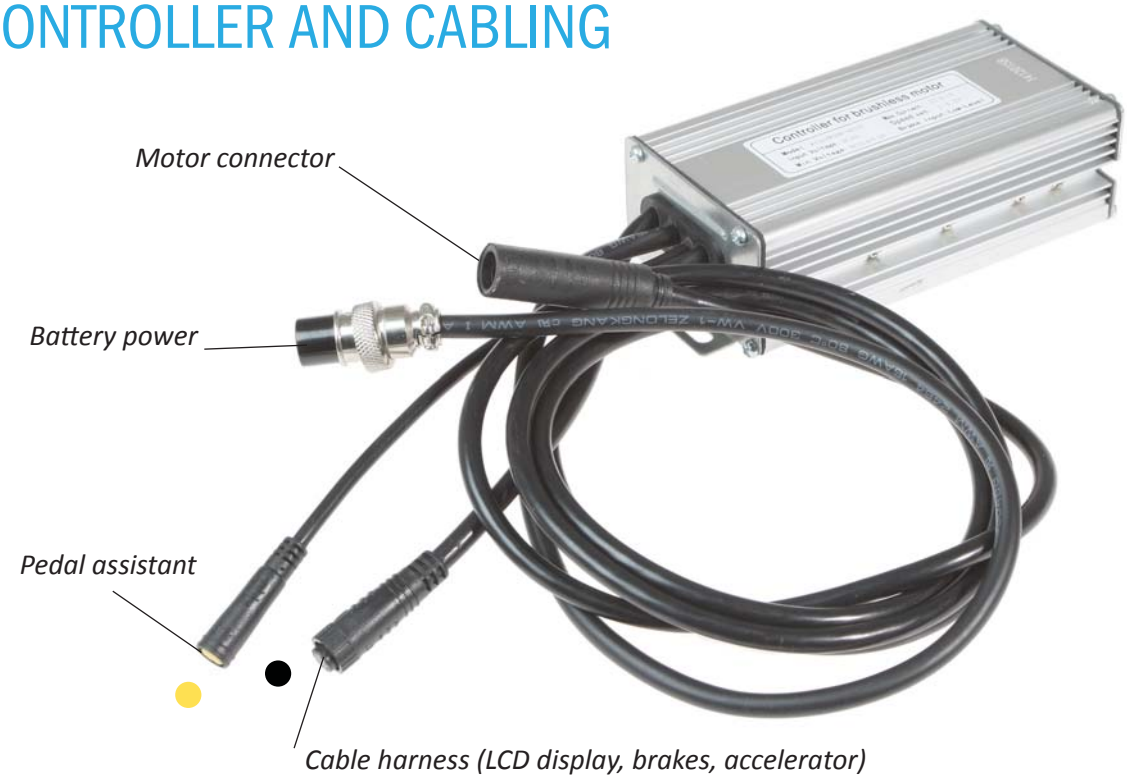
6) Assembly all parts back. Before final tightening you should check the correct function of pedaling detection.

7) Before final tightening of all screws is necessary to check the correct functioning of pedaling detection.

TIP

If you mount kit on a scooter, or operate it only in accelerator mode, you can skip pedal assistant assembly.

3. CONTROLLER AND CABLING



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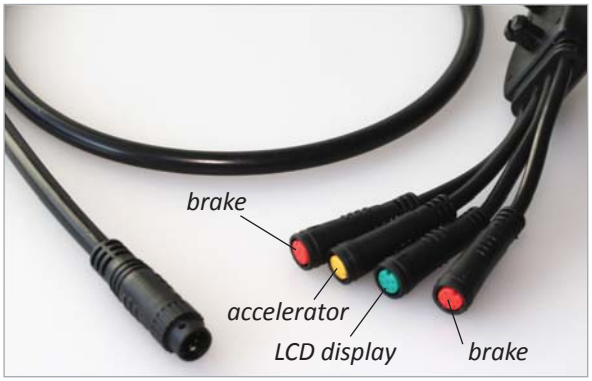
⚠ WARNING

Make sure proper cable connection! Conectors have different colors so risk of incorrect connection is minimised (Fig. 11). In addition, they have locks against turn over. Use adequate strength to connect connectors. **If you use excessive force, you may damage the connectors**!

Before connecting cables to the controller, make sure that all the pins inside the connectors are properly seated. All pins must be in straight direction to the opposite connector body. Before cable connecting, check the contacts and make adjustments to ensure perfect contact pins with the opposite connector pins. Wrong cables or pins connecting can cause serious damage of bike parts - especially the battery, motor and controller. Damages due the incorrect cable or pins connecting will void your warranty.

When connecting the motor connector and controller, make sure that the arrows on the connectors facing each other (Fig. 13).



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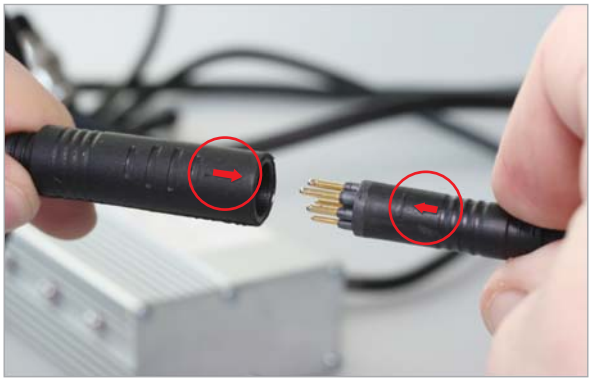

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4. LCD PANEL INSTALLATION AND USAGE

The LCD panel is installed at the center of the handlebar (fig. 14), possibly may be installed on the right or left side. After installation of the LCD panel please connect cable to the control unit.

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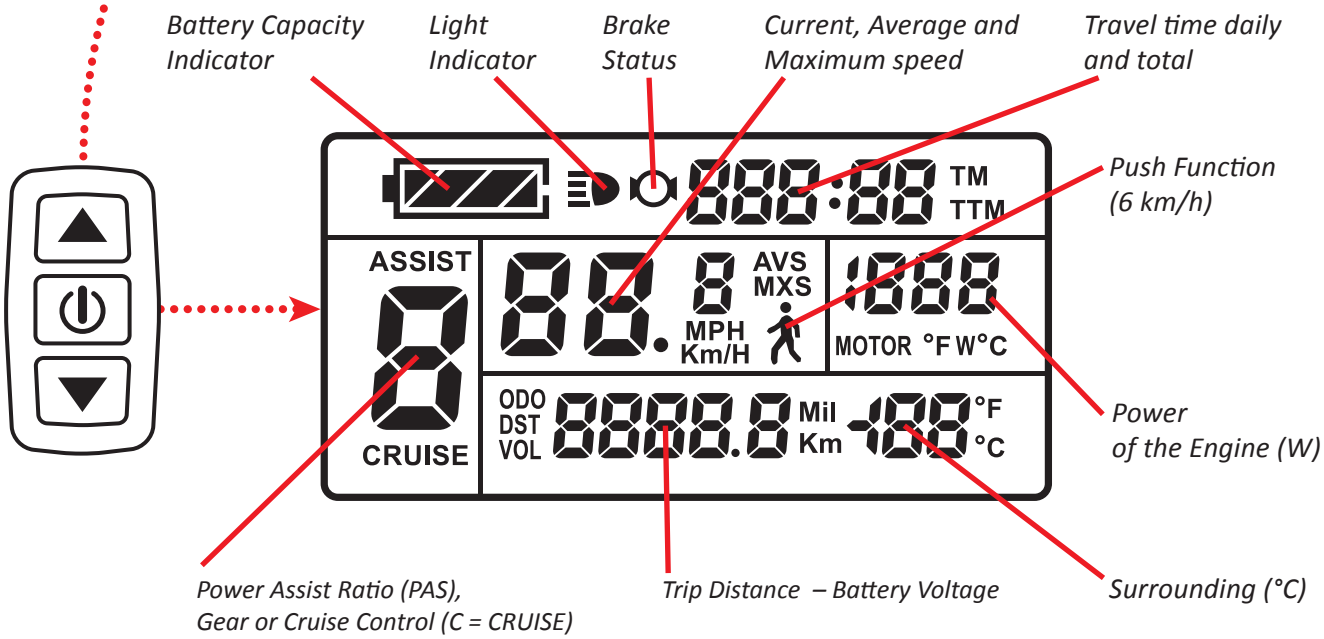


MEASURED VARIABLES AND USER CONTROL DISPLAY:

1. Travel time - since the last reset (TM) and overall (TTM)
2. Speed (km / h or MPH) - current speed, maximum speed recorded during the ride (MXS) and average speed (AVS)

3. Mileage distance - Daily kilometers (DST) and the total distance (ODO)
4. Indication of drive and function accelerator
5. Indication of drive and function PAS (Pedal ASsistant)
6. Setting the degree of strength PAS (Pedal ASsistant)
7. Activates function pushing the bike with speed up to 6 km/h ( )
8. Activates cruise control (C-Cruise)
9. Indicates the approximate state of the battery, when flashing: function recovery * ( )
10. Condition of the battery voltage in Volts (**VOL**)
11. Measures the of power of the engine in Watts (W) – current drain on the battery
12. Indicates the compression of the brake levers, when flashing function recovery * ( )
13. Indicates light activation ( )
14. Surrounding temperature in °C or °F.

* Recovery function can be set in several grades. Incorrect setting can damage your battery or other electrical equipment components. For proper configuration, please contact the service partner EVBIKE.

Description of the control buttons:

On the control panel you will find three buttons arrow up (UP), switch ON/OFF (SW) and arrow down (DOWN).

To turn ON/OFF hold (SW) button. The system is protected against unnecessary battery discharge. In case of inactivity, i.e. the system does not indicate any riding activity for longer than 5 minutes, the system will automatically switch off and the battery does not consume any energy. To protect against deep battery discharge always follow the instruction manual for the battery.

Quickly pressing the (SW) button switches between the screens and displays the individual measured variables. If during the ride you switch from the home screen to screen No.2. average speed (AVS) or to screen No.3. achieved maximum speed (MXS), after 5 seconds the display again returns to the home screen with the value of the current speed. On the home screen there it will remain either the amount of the daily distance (DST) or information about the battery voltage (VOL.).

Functions of the system:

1. Assistant for pushing the bike - ( ) while the bike is stationary, press and hold the (DOWN) button, the bike will accelerate to a maximum speed of 6 km/wheel, such as on a very steep hill.

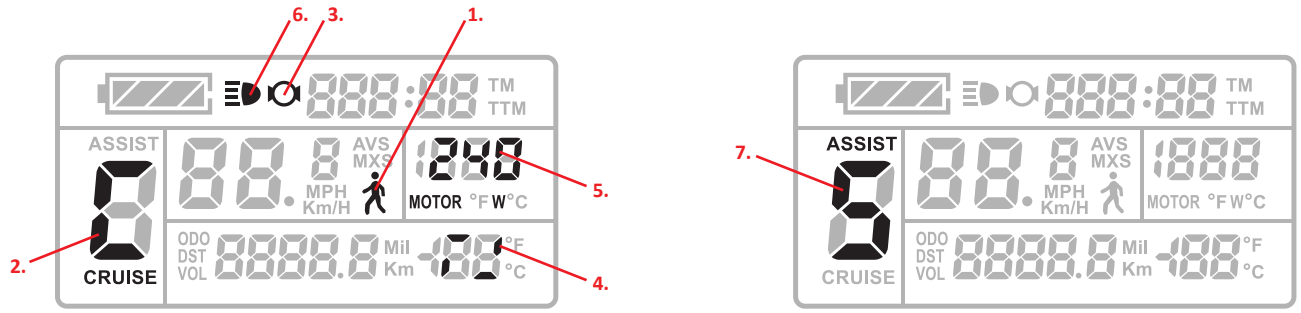
2. **Cruise control** – C (CRUISE) – while riding above 12 km / h, press and hold the (DOWN) button. The symbol (CRUISE) and C will light up instead of displaying the degree of assistance. This will fix a steady speed and maintain it. The function can be immediately deactivated by pressing any button or brake lever.

3. **Braking and recovery** - ( ) – the symbol of the brake caliper is displayed after pressing the brake lever. If the recovery function is activated this function will activate after pressing the brake lever. Recharging the battery is shown by a flashing symbol and gradually recharging battery . Recovery activation is accessible only by an authorized partner of EVBIKE and before its setting you must verify that the used battery and its protective system supports this kind of charge.

4. **Indication accelerator function** – this function symbol indicates the rotating parts around the perimeter of two digital digits 88 on-site display of the surrounding temperature.

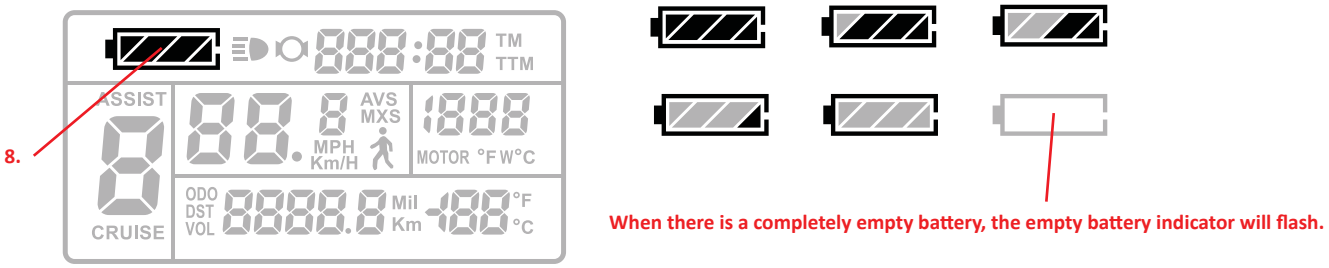
5. **Power consumption in Watts (W)** – current drain on the battery. Power consumption is approximate. For exact measurements you must use a certified gauge. This figure provides the rider with information on which he can adapt his riding style and achieve a longer ride.

6. **LCD display backlight** – to activate, press the button (UP) and hold. The display lights up and this is indicated by the symbol ( ), hold the button again to deactivate the backlight.



7. **Adjusting the level of assistance** – to set higher level of assistance, press the symbol (UP), to set a lower level of assistance press (DOWN). The assistance levels can be set in increments of 5 degrees. Stage 0 means assistance is completely off and it can be ridden only by the accelerator. Stage 1 means a low grade of help, Stage 5 indicates the highest level of assistance while riding. When assistance is active, its function is indicated by the flashing symbol ASSIST.

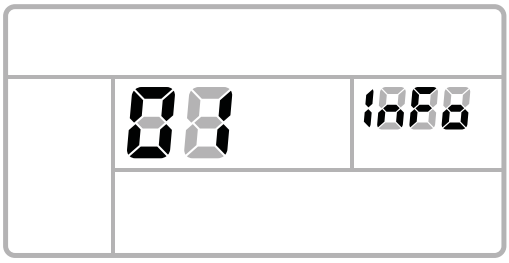
8. **Setting indicative measurement of the battery** - The battery indicator displays an approximate value of the voltage, not the capacity of the battery! The measurement is performed based on battery voltage. In addition, while driving under the influence of a load the voltage changes and it may show a fully empty battery. This is a normal phenomenon that manifests itself depending on the type of battery. For the current status of battery voltage it is recommended to stop and find out the real situation. The battery status can also be watched according to voltage values. For batteries with a nominal voltage of 36V, the voltage 41V and more is equal to a 100% charged battery, when the battery is 33V or less it indicates a used battery. A 48V battery with 54V or more Volts is 100% and 40V and less means that the battery is low. The battery amount indicator in default setting will not function correctly for a 48V battery. In the service center EVBIKE it is possible to calibrate the indicator to measure the correct values for 48V.



3. **Deleting the distance traveled and the travel time** - To erase the data on distance milestones (DST) and travel time (TM), wait at least 20 seconds after activation of the LCD display. Then simultaneously press the symbols ▲ (UP) and ▼ (DOWN), after a few seconds, the data on time and distance will blink. To confirm the deletion of data, briefly press the ON/OFF button ⏻ (SW), this will delete the data. If you do not want to delete the data, leave the display flashing and after 5 seconds it will return to its original state without erasing anything. The data of the total distance (ODO) and total travel time (TTM) can not be deleted.

Error diagnostics and table of error messages:

The LCD display can inform the user in case of error. The fault is declared by a message displayed "info" and the corresponding error code. When such an error is shown, please remember the error number and contact the Service Center for further action.



Some error messages and their descriptions can be found in the following table:

Error code	Error description	Recommended solution
01__info	Accelerator error	May occur if the accelerator is running at startup. Also, if it is damaged and remains hanging in a different position. If the error occurs regularly, you will need to replace it.
03__info	Motor defect (Hall probe)	Control unit does not detect all probes. First, check the connection of the motor and control unit. The pins inside the connector must be undamaged, the mating connector must be fully inserted into the overall counterpart. If this error occurs regularly, it will be necessary to stop using the bike and get to a repair service.
06__info	Control unit error (a short in the motor or battery)	Immediately stop the system by turning off the main switch of the battery. Remove the battery from the bracket. After that, check the correctness of the connectors. Also check if the wiring was not mechanically damaged. All contacts must be clean and dry. If this error occurs regularly, it will be necessary to stop using the bike and get to a repair service.

SETTING THE BASIC PARAMETERS OF THE SYSTEM:

To access the settings, turn off the LCD screen by pressing (SW). Then turn the LCD on again by pressing (SW) and immediately hold both buttons with symbols (UP) and (DOWN). After about 15 seconds a flashing symbol with speed settings will appear. Individual values can be set by using the buttons and (UP) (DOWN). Switch between the values by pressing the switch (SW). To exit and save the settings, hold (SW).

1. **Setting the speed limit** - the setting affects engine shutdown in the event of reaching the set speed. This setting does not affect the maximum speed. The maximum speed that it reaches depends on the battery voltage, the diameter of the wheel with the engine, the weight of the rider and the nature of the terrain. The LCD panel is factory set to fully meet the legislative requirements for the operation of electric bikes on the road. The speed is therefore limited to 25 km / h. This is the default setting. Please do not change when you ride on roads.

2. **Wheel diameter** - to correctly measure the distance and speed, it is necessary to set the wheel diameter in which the motor is installed. You can set these wheel diameters: 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 700c and 28 inches. For the speed measurement the unit EVBIKE uses signals from the hall probes of the engine.

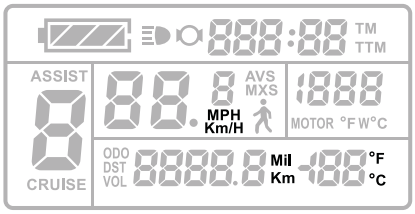
3. **Unit settings** - On the last screen you can set your preferred unit of measure for speed, distance and temperature.

System	Metric	Imperial
Speed	km/h	MPH
Distance	km	Mil
Temperature	°C	°F

1.

2.

3.

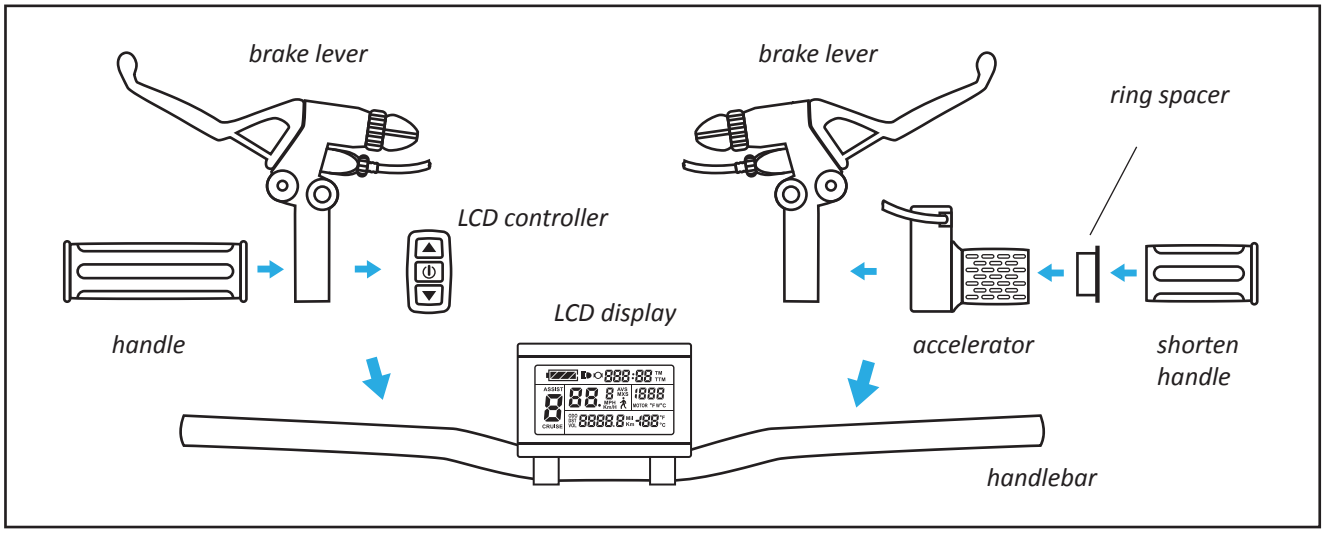


NOTICE

Factory setings of the LCD panel fully meet the legislative requirements of the operation of road electric bikes. The speed is therefore limited to 25 km/h.

5. BRAKES, ACCELERATOR, HANDLE

- First disassemble the original equipment.
- Controls assemble in this order see Figure 17. Accelerator and LCD can be installed on left or right side according to user preference.



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NOTICE

If you operate bike in pedal assistant mode you can skip the installation of accelerator.
Unused connector on the combined wiring harness must be insulated against moisture.

6 USAGE

The product can be used in the rain, but should not be exposed to continuous contact with water. If you are driving in the rain never disconnect connectors and do not use LCD controller. Don't leave the main unit exposed to direct sunlight when not riding the bike. Store the product in a dry place with a temperature of 15-25 °C. Keep product clean. Don't use thinner, alcohol or benzene. Wash with clean water using a damp cloth. Do not concentrate on meter while riding. Safety first!

CAUTION

NEVER MANIPULATE MOVING PARTS IF BATTERY IS CONNECTED. RISK OF SERIOUSLY INJURY! BEFORE HANDLING TURN OFF LCD DISPLAY, DISCONNECT BATTERY AND REMOVE IT OUT OF THE HOLDER.

7 MAINTENANCE

It might seem that the EVBIKE set is almost maintenance free. Main care will definetely require your battery. Please check **separate battery user manual** for more infromation. In this manual you can find only basic guidelines how to use lithium batteries. If you follow this guidelines, you will ensure longer life of your battery. The following principles apply to most types of lithium batteries.

Proper charging

Lithium cells which contain EVBIKE batteries can be recharged at any level of charge or discharge - these batteries have no memory effect. We recommend always after the ride, to recharge the battery so you can immediately enjoy full power and a long driving range. After recharge always unplug the battery from the charger.

Proper discharging

Recharge the battery to full capacity after the the first disconnection of protective controller. Never try to reuse the battery after protective disconnection! Deep discharge of some cells and their unrepairable damage may happen! Such battery usage may also cause unbalance of battery cells voltage and decrease their capacity. In extreme cases, the battery can not be recharged again. This kind of damage can be easily diagnosed and will result in avoiding your warranty.

Storage

If you do not use the bike for more than 1 hour, the battery goes to sleep mode. In everyday use it is not necessary to turn off battery at all. It is important to just charge it. If you do not use the bike for more than 24 hours, always remove the battery, recharge it and store in a safe dry place at room temperature. Beware of short-circuit the battery terminals (contacts) when storing and handling. For long-term storage, such as off-season (whenever the battery is not used for at least another 7 days), turn the battery off and moreover check the battery every 30 days (using LED indicators). In case of energy loss, perform recharge to 75% capacity. Perform this controling charging every month. If you do not perform this maintenance deep discharge of the battery cells will occur. This irreparable battery damage is not covered by warranty.

BEFORE THE FIRST RIDE CHECK THE TIGHTNESS OF ALL BOLTS AND FUNCTIONALITY OF ALL SYSTEMS INCLUDING WHEEL BRAKES.

Declarations of conformity:

Global World Logistic Ltd., EU-VAT ID: CZ682998344, as an entity authorized by the producer for EU, thus proclaims that the device conforms to basic requirements and any other relevant provisions of Decree-Law No 17/2003 Coll., as well as the device conforms to basic requirements and any other relevant provisions of Decree-Law No 176/2008 Coll., establishing technical requirements for machinery (MACHINERY DIRECTIVE 2006/42/EC, 2009/127/EC). This statement is issued on the basis of documents presented by the producer.

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